

CLAIM LISTING

1. (Previously Presented) Intravascular stent; comprising in an inner surface an enzyme, or cells that have been genetically modified to produce said enzyme capable of catabolizing cholesterol and lipids.
2. (Previously Presented) Intravascular stent according to claim 1, wherein said enzyme comprises at least one of a lipoprotein lipase and a very low density lipoprotein (VLDL) receptor (VLDLR).
3. (Previously Presented) Intravascular stent according to claim 1, wherein a material constituting the stent comprises a metallic alloy.
4. (Previously Presented) Intravascular stent according to claim 1, wherein the inner surface is covered by an underlayer capable to bind to the enzyme or to the genetically modified cells and, in this last case, to allow cell growth.
5. (Previously Presented) Intravascular stent according to claim 4, wherein the underlayer is a nitrogen rich layer.
6. (Previously Presented) Intravascular stent according to claim 4, wherein the enzyme is immobilized on a surface by covalent binding with the nitrogen rich layer wherein the nitrogen rich layer is a polymer layer.
7. (Previously Presented) Intravascular stent according to claim 4, wherein the genetically modified cells are bound to the layer, if necessary via a fibronectine coating.
8. (Previously Presented) Intravascular stent according to claim 1, wherein the genetically modified cells comprise endothelial cells.

9. (Previously Presented) Intravascular stent according to claim 8, wherein the genetically modified cells comprise human normal umbilical vein endothelial cells or human autologous immortalized microvascular cells.
10. (Previously Presented) Intravascular stent according to claim 8, wherein the endothelial cells are transformed with an adeno-associated viral vector (AAV) containing the sequence encoding the enzyme.
11. (Previously Presented) A method for using of an intravascular stent that comprises in an inner surface an enzyme, or cells that have been genetically modified to produce said enzyme capable of catabolizing cholesterol and lipids, the method comprising treatment or prevention of obstructive arteriosclerotic lesions in coronary and peripheral blood vessels, or prevention of restenosis in intra coronaric stents.
12. (Previously Presented) Intravascular stent according to claim 3, wherein the metallic alloy comprises at least one of stainless steel and shape memory alloys such as Ni, Ti based alloys of similar composition.
13. (Previously Presented) Intravascular stent according to claim 5, wherein the nitrogen rich layer comprises polymers containing nitrogen and related chemical functionalities.
14. (Previously Presented) Intravascular stent according to claim 5, wherein the nitrogen rich layer comprises an amorphous carbon nitrogen layer.